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ABSTRACT

This paper examines the consequences of principals' graduate training in educational administration for school effectiveness and asks: Are schools led by administrators with extensive, formal preparation more effective than schools led by principals with little or no graduate training? The data were derived from the School and Staffing Survey (SASS), sponsored by the National Center for Educational Statistics (NCES) and conducted by the U.S. Bureau of the Census during 1987-88, a nationally representative sample of the public and private elementary and secondary schools at that time. Of the total sample of 12,830 schools, a subsample of 6,341 elementary, junior high/middle, and high schools was analyzed. Five measures of school effectiveness were created. Then multiple analysis of variance and covariance was used to relate these measures to the level and type of training principals had received, controlling for several confounding influences. No evidence was found to suggest that principals' graduate training in educational administration improves the effectiveness of public elementary and secondary schools. It is recommended that further evidence be gathered before requiring graduate training for school administrators. Five tables are included. Contains 31 references. (LMI)

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# DOES GRADUATE TRAINING IN EDUCATIONAL ADMINISTRATION IMPROVE AMERICA'S SCHOOLS? ANOTHER LOOK AT SOME NATIONAL DATA

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## ABSTRACT

In this paper we examine the consequences of principals' graduate training in educational administration for school effectiveness: are schools led by administrators with extensive, formal preparation more effective than schools led by principals with little or no graduate training? Using a nationally representative data base, we create five measures of school effectiveness that capture conceptually and empirically distinct dimensions of that construct. Then, using multiple analysis of variance and covariance, we relate these measures to the level and type of training principals had received, controlling for several potentially confounding influences. We find no evidence that principals' graduate training in educational administration improves the effectiveness of public elementary and secondary schools.

# DOES GRADUATE TRAINING IN EDUCATIONAL ADMINISTRATION IMPROVE AMERICA'S SCHOOLS? ANOTHER LOOK AT SOME NATIONAL DATA

By

Emil J. Haller, Brian O. Brent, James H. McNamara

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## Background

During the 1980s a number of reports addressed the notion of "excellence" in education. Among the most notable were A Nation At Risk (The National Commission on Excellence in Education, 1983); Action for Excellence: Task Force on Education for Economic Growth (Education Commission of the States, 1983); and The Twentieth Century Fund Task Force on Elementary and Secondary Education Policy: Making The Grades (Twentieth Century Fund, 1983). All of these reports concluded that American schools suffered from numerous ills, though they differed somewhat in their preferred remedies. Perhaps the most common recommendation was that elementary and secondary school principals needed to acquire the skills necessary to be become strong instructional leaders. (See Crisci, 1986).

Since much of the impetus for school improvement was thought to derive from the actions of the school principal, it was not surprising to find a growing interest in the pre-service training of school administrators. Recently, much of the discussion surrounding that training has centered on the merits of various pedagogical techniques (e.g., Bridges, 1992) and delivery systems (e.g., Murphy & Hallinger, 1989). Although these analyses offer useful

insights into existing and emerging programs, they tend to obscure the prior question: Why should we believe that someone will become a better educational administrator by going to graduate school?

Seemingly, educators and policy makers have moved forward without an answer to that question. Nowhere is the supposition of the efficacy of graduate training more clearly evidenced than in state requirements for principal certification. In 1993, forty-five states required prospective principals to obtain at least a master's degree (or equivalent course work) prior to appointment (Tryneski, 1993). Professional associations have also called for considerable increases in the training required for a license to practice. Indeed, the National Policy Board for Educational Administration (NPBEA) has recommended that building level administrators be required to hold a doctorate in school administration (NPBEA, 1989).

Before we seriously consider such extreme reforms, however, it is important to ascertain their likely efficacy. After all, graduate training is expensive for the individual who undergoes it, the institution that provides it, and the society that requires it. The costs born by the individual not only include readily identifiable direct expenditures (e.g., tuition and books), and indirect expenditures (e.g., transportation and meals), but additionally, the cost of foregone employment opportunities. While opportunity costs are difficult to quantify, and required cash disbursements are dependent upon enrollment status (full-time vs. part-time) and institution type (public vs. private), the potential magnitude of the costs born by the candidate should not be underestimated. And of course there are the largely hidden nonpecuniary costs imposed on families when a person enrolls in graduate school.

Similarly, the costs to universities may be high. In a study of preservice administrator

training programs in California, Gerritz, Koppich and Guthrie (1984), determined that the direct and indirect costs of programs greatly exceeded the tuition and fees collected. When that occurs, programs adversely affect institutions' resource pools; they usurp institutional funds and make less likely the provision of other, perhaps more beneficial programs. It should be noted, however, that whether educational administration programs create a net loss in university revenues is contested. Twombley and Ebmeir (1989) described school administration programs as universities' "cash cows."

There are also costs to the society that mandates preservice preparation programs, and these cost may be manifested in subtle ways. For example, the increase in the cost of entry, both in money and time, may cause the attractiveness of the profession to decline. Those who are unwilling to incur the cost of an advanced degree will take their services elsewhere. Thus, the requirement that principals obtain graduate degrees in educational administration could decrease the quality of the applicant pool. This situation is made even worse when we recognize that there may already be a vast oversupply of credentialed administrators for the positions available (Gerritz et al., 1984). If that is the case both universities and society may be expending scarce resources to prepare many persons for jobs they will never hold.

Our point is not that any of these costs are necessarily excessive or that all are even incurred. Rather, it is that given the extensiveness of mandated preservice training and the potential magnitude of its cost, it is surprising that the efficacy of graduate training in educational administration is relatively unstudied. In part this is the result of the formidable difficulties involved. Nevertheless, the importance of the topic requires that it receive more attention than it has. Perhaps this paper will help to provoke interest in the issue.

## Literature Review

We have noted the paucity of evidence regarding the efficacy of training programs. Nevertheless, viewed broadly, there are five tangible (albeit inferential) lines of evidence that graduate training in educational administration has no positive effect on administrator or school performance. First, consider the fact that the U.S. is one of the few nations in the world where prospective public school administrators are required to take substantial amounts of graduate training in order to become certified in their chosen profession. And of course, certification is the minimal requirement. Vacancy announcements make it obvious that, in practice, much more training may be necessary: School boards often require that candidates for an administrative position hold a doctorate. But it is not manifestly obvious to us that our schools are better administered than those of Germany, Italy, France, Japan, etc., countries where little or no formal training is required. Indeed, if one believes the numerous international comparisons of educational achievement, it would not be perverse to conclude that all of that training makes U.S. administrators less competent.

Second and closer to home, we now have a spate of studies that suggest that private school students outperform their public school peers (e.g., Coleman & Hoffer, 1987; Chubb & Moe, 1990). We recognize that this literature is contentious. Nevertheless, it seems safe to assume that, on average, there is no difference between the performance of private and public school students. Yet the administrators of private schools have significantly less graduate training that do their counterparts in the public sector. For example, 30 percent of the principals of private schools are practicing their craft without the benefit of a masters degree, while only 9 percent of the public school principals are so bereft (Choy, Medrich & Henke,

1992). And of course, the headmasters of the most prestigious private secondary schools in this country (e.g., Andover and Phillips Exeter) are unlikely to have professional training in any aspect of Education, much less in educational administration (Cookson & Persell, 1985).

Third, there is some fascinating anecdotal evidence regarding the efficacy of preservice training. Some will recall Jean Hills' discussion of his stint as a practitioner (Hills, 1975). Hills spent a year as an elementary school principal during his sabbatical leave from the University of British Columbia, where he was a professor of educational administration. Essentially, he asked himself if he was using the theories and concepts he taught when he actually served as a principal. Succinctly, his answer was "no." Cross (1983), in a career change similar to Hills', also had doubts about the usefulness of university courses for administrative practice.

A fourth kind of evidence derives from those surveys of practitioners that ask for judgments about the value of their graduate work. Here the evidence is mixed at best. For example, Maher (1987) found that principals and central office administrators were generally dissatisfied with their graduate programs, with the former more dissatisfied than the latter. Schnur (1989) concluded that principals' level of satisfaction with their training was related to their tenure: The more experience principals had, the more dissatisfied they were. Goldman and Kempner (1988), in a survey of Oregon administrators, found them ambivalent about their formal training, believing that certification and professional development programs were often irrelevancies. It should come as no surprise, then, that professors of educational administration believe their programs are considerably more valuable than do their former students (Lem, 1989).

In another survey of practitioners, and in contrast to the aforementioned studies, Wildman (1991) concluded that graduate training had positive effects on performance. Actually, what Wildman found was that graduate students interviewing practitioners think that those with a doctorate speak more like professors than those without. Wildman counts this as evidence that training is beneficial. Some might disagree.

Fifth, and going beyond the rough and inferential evidence provided by the international studies of educational achievement, the public-private comparisons, the reminiscences of scholar-practitioners, and surveys of practicing administrators, there are a few studies that directly attempt to assess the effects of graduate training on administrator performance. In our view, two of the more important and comprehensive studies on this issue were conducted in the 1960's. Gross and Herriot (1965) created a measure of principal effectiveness (essentially a measure of perceived leadership) and found that it was negatively correlated with taking courses in educational administration. The more graduate courses a principal took, the less effective leader he or she was judged to be. In a similar vein, Hemphill, Griffiths and Fredrikesen (1962) designed a quasi-experimental study of administrator performance based on a simulation of items commonly found in principals' inbaskets. They found a zero correlation between graduate training and rated performance. More recently, using survey data collected by the National Association of Secondary School Principals, Bauck (1987) concluded that formal education appeared to have no bearing on principal effectiveness.

The study most relevant to ours was conducted by Fowler in 1991. Fowler used data collected by the Census Bureau for the National Center for Educational Statistics, the School

and Staffing Survey (SASS), a study designed to provide a nationally representative sample of U.S. schools. Based on perceptions of a sample of teachers in each school, Fowler created a measure of perceived principal effectiveness (PPE). He then related PPE scores to, inter alia, the level of training of principals and found that those who possessed only a B.A. degree scored higher than those who had earned either a Master's or a Doctorate. Thus, Fowler's analysis (like Gross and Herriott's) suggests that graduate training makes principals less effective.

Overall, our reading of the limited literature on this subject suggests that there is virtually no evidence that graduate training increases the effectiveness of school managers. Given the stress that is currently being placed on extending graduate training, it is important to ascertain whether that training has the effects it is presumed to have. This study was intended as a step in that direction.

## Rationale

Rather than beginning with a conception of administrative performance, this study is rooted in the effective schools literature. That literature purports to have identified certain attributes that are characteristic of schools that successfully teach students the skills that the schools intend to impart (Holcomb & McCue, 1991; Levine & Lezzotte, 1990; Rowan, Bossert & Dwyer, 1983; Purkey & Smith, 1983). Although the list of these attributes varies from study to study, a rough consensus has emerged. Effective schools are apparently characterized by a principal who is viewed by his or her staff as an instructional leader (Kelley, 1989); a faculty that is directly involved in the school decision making process

(Holcomb & McCue, 1991); a principal who is able to provide guidance, support, and encouragement to staff members when requested (Crisci, 1986); students who treat teachers and each other with mutual respect, i.e., a school with an orderly and safe environment (Persell, Cookson & Lyons, 1982); and, a staff that shares a commitment to instructional goals, priorities, assessments, and procedures (Holcomb & McCue, 1991). From our perspective, what is notable about many of these attributes is that they can be directly influenced by a principal's actions.

A second feature of these effective schools characteristics is important for our purposes. Not only are they all plausibly influenced by principal behavior, it is also reasonable to believe that graduate training in school administration enables principals to exercise that influence more effectively. That is, compared to an unprepared person, a well trained principal presumably knows better how to influence events in his or her school; is able to more effectively involve teachers in school decision making; is more knowledgeable about educational processes and hence able to help teachers who need assistance; is more familiar with the methods used to create an orderly school environment; and knows better how to establish a climate of shared commitment in the staff. One has only to peruse the catalogs of most graduate programs to recognize that these are explicit goals of many courses in educational administration. Thus, it is reasonable to argue that principals who have had extensive training in school administration ought to be more effective in these particular aspects of their work. Indeed, it is hard to imagine a plausible rationale for <u>state-mandated</u> training that does not rest on the assumption that schools are improved when their principals take graduate courses in educational administration.

We set out to construct a set of credible and reliable measures of these attributes and hence distinguish between more and less effective schools. We reasoned that if graduate training in school administration improves principal performance, and if this improved performance is manifested in increased school effectiveness, ceteris paribus, administrators of schools identified as effective should evidence higher levels of formal training in school administration than their colleagues in less effective schools.

Note that we are not arguing that these five characteristics are exhaustive, that an effective school must necessarily evidence any of them, or that a school cannot be effective without an effective administrator. Rather, we are arguing that, on average, effective schools are more likely to have a competent principal, and that if graduate training in school administration improves competence, then the principals of those schools should, on average, be more highly trained than principals of less effective schools.

## Methods

### A Comment on Fowler's Analysis.

To begin a discussion of our methods, we return to Fowler's (1991) study. After finding that administrators with only a B.A. have higher effectiveness scores than those with MAs and PhDs, Fowler concludes: "These are tantalizing results. They cry out for replication and further elucidation" (Fowler, 1991:15). We agree. If his results are to be believed, they have extraordinary implications for graduate programs in educational administration. Before we accept his findings, however, it is important that his study be replicated.

There are many ways to replicate a study. Perhaps the first of these is to reanalyze

the data used by another investigator, while adopting different conceptual and analytic procedures. If this sort of replication produces essentially the same findings, the original study's conclusions are supported. That is, they are less likely to be an artifact of the original author's conceptualization and methods. In this paper we used the same data as Fowler, but adopted a substantially different methodology. Further, we posed the question he asked in a considerably different way.

Four important differences in the two studies deserve mention. First, the unit of analysis in the Fowler study was individual teachers. In this replication the unit of analysis was the school. This change links each principal in the data set with his or her own teachers, and in the process creates equal weights for the data on each principal. The change was accomplished by aggregating teacher data to the school level.

Second, Fowler was interested in a single aspect of principal training, its amount, measured as the highest degree level attained. He then asked whether that amount was related to various attributes of the principal or the school, e.g., age, sex and ratings of perceived effectiveness. In this study we consider the possibility that the nature of a principal's training, in addition to its amount, may affect school outcomes.

A third difference concerns our conception and measurement of a dependent variable. Fowler conceptualized his study as an investigation into the correlates of the amount of principals' graduate education. We take a more explicitly causal view. We ask whether both the level and kind of a principal's training influences a school's effectiveness. We created five indices of school effectiveness, our dependent variable. This reconceptualization required us to replace Fowler's analysis of variance model with a multivariate analysis of variance

capable of simultaneously analysing these five indices.

Finally, a fourth difference derives from our conceptualization that additional factors might modify any effect of principals' training on school effectiveness. To control for this possibility we carried out a multivariate analysis of covariance involving five covariates.

These conceptual and procedural differences are more fully elaborated below, in our discussion of the design of this replication.

Data Sources.

The data for this study come from the School and Staffing Survey (SASS), sponsored by the National center for Educational Statistics (NCES) and carried out by the U.S. Bureau of the Census. The four integrated surveys were designed by the NCES to gather information about teachers, administrators, and schools and were intended primarily to project staffing needs. Data were collected during the 1987-88 school year and are nationally representative of the public and private elementary and secondary schools existing at that time. From the total of 12,830 schools drawn into the sample, we selected all public schools (N=9317). We eliminated schools that were classified as "combined" and "other" (e.g., K-12, and those serving exclusively special education or vocational students). In addition, we removed schools whose principals had been in office for one year or less, on the grounds that such a person would have had little opportunity to influence a school's effectiveness. When cases lacking complete data were eliminated, 6341 elementary, junior high/middle, and high schools remained for analysis.

We used three linked files from the SASS data set: the School Administrator Survey; the School Survey; and the Teacher Survey. The first of these contains information regarding

the background, experience, and training of the principals of the sampled schools. The teacher Survey collected information from a random sample of 4, 6 and 8 teachers within each school (from elementary, junior high/middle and secondary, respectively). The teacher questionnaire asked for information regarding various aspects of teachers' background and training, for their perceptions of their principal, and for their views of conditions in the workplace. Finally, the School Survey provided us with the grade levels served by the institution. (For further details, see National Center for Educational Statistics, 1991).

Measures.

We constructed two independent variables (factors) from these data. As part of their responses to the Administrator Survey, principals were questioned about the level and type of their formal preparation for school administration. Our first factor, Degree, was a four-level classification of the highest degree attained by the principal: Bachelors, Masters, Specialist (a certification available in many states and representing a level of training between the MA and the EdD) and Doctorate. Our second factor, Major, provided a three-level classification of the major subject studied by the principal: Educational Administration, another major in Education but not Administration (e.g., Curriculum or Guidance), and a major in any subject area outside Education (e.g., History).

Our dependent variable was school effectiveness. Five indices were constructed from the data produced by the Teacher's Questionnaire. All were intended to represent one of the distinct aspects of school effectiveness discussed above. (See the Appendix for the specific items used.) The first of these, principal leadership, derives from the nearly unanimous agreement in the effective schools' literature that this quality of a principal is critical to

school success. Leader was a Likert scale constructed from ten questions selected from a pool of twenty-three items on the basis of a principal components analysis. The items called for a teacher's rating (on a five-point Strongly Agree-Strongly Disagree scale) of various aspects of the working conditions in the school and of the behavior of its principal. The alpha reliability of this scale was .90.

The second index of school effectiveness addressed the notion that effective schools are characterized by a climate in which teachers share the same goals and objectives. This index (also derived from the principal components analysis of the twenty-three items that yielded the Leader scale) was termed Climate. It consisted of a Likert scale of three items that centered on shared values among the staff. The alpha reliability for this scale was .69.

The effective schools literature has stressed the importance of a school environment characterized by a level of decorum and social responsibility among students. Our third index concerned the extent to which the students in the school behaved in an orderly manner (Order). It was created from six questions selected on the basis of a principal components analysis of a pool of thirteen items asking teachers about student behavior problems. All of the questions addressed the seriousness of certain problems in the school, e.g., student fighting. The scale's alpha coefficient was .85.

As we have noted, the effective schools literature has placed a great deal of emphasis on the idea that successful schools are characterized by deliberate attempts to involve teachers in making decisions affecting their work. Our fourth index provided a measure of the degree to which teachers felt that they had a voice in school policy (Policy). It was based on four items that asked teachers to rate how much actual influence they have over specific school

policies. The alpha reliability of this scale was .74.

Finally, the literature suggests that effective schools are characterized by principals who are able to provide help and support to their staff when it is requested. Our final index was intended to measure the degree to which principals were perceived as able to do this (Help). One item on the questionnaire asked teachers to rate (on a six point scale) how much the principal had helped them to "improve [their] teaching or to solve an instructional or class management problem."

With the exception of the last variable, Help, the mean of each respondent's answers to the selected questions was taken as that teacher's rating of the particular aspect of effectiveness. Individuals' scores were then aggregated to the school level by taking a school mean for each of the five measures. These school means became the five indices of the extent to which individual schools were characterized as effective, the dependent variable in our analysis.

Clearly, other factors might influence principal effectiveness. To control for some of these, five controls were created and used in our analyses. The first of these was the level of the school (Level). It seemed plausible that the extent to which a principal would be able to exert leadership, influence school climate, etc., would depend on the complexity of the organizational structure of the school: The more complex that structure, the more difficult would it be for a single person to exert influence. As an index of organizational complexity, we created three dummy variables for the grade level of schools (Elem, Middle, HS). Middle and High were entered into the analysis, while Elem served as the reference category.

On the same grounds, we reasoned that it would be harder for a principal to exert

influence in a large school than in a small one. The SASS data set provided a measure of school size categorized into six levels, which was used as a second control variable (Size).

Since our measure of principal effectiveness was dependent on teachers' perceptions, we though it appropriate to control for the length of the principal's tenure (in years) in that school (Tenure). We reasoned that principals who had held office for only a short time would be less likely to have had an opportunity to exercise influence. Similarly, we presumed that administrative experience in other schools or in a central office, and experience as a teacher might play a role in principal's effectiveness. We used the total years of administrative experience in other positions (AdmExp) and the number of years in a teaching position (TchExp) as controls in our analyses. Fowler's analysis suggested that two of these variables (teaching experience and the level of a school) were significantly related to his measure of principal effectiveness.

Statistical Analysis.

We began, then, with two independent factors (Degree and Major) with four and three levels, respectively. These factors were intended to describe the amount and type of principals' graduate training. We were interested in the effect of these on school effectiveness, our dependent variable. We created five indices of school effectiveness (Leader, Climate, Order, Policy and Help), all conceptually distinct aspects of an effective school. Clearly, however, while these indices were conceptually distinct, they would be empirically related; we could expect at least moderate correlations among the five. With two independent factors and five correlated indices of the dependent variable, we used a multivariate analysis of variance (MANOVA) to assess the role of principal training on school

effectiveness. Following the MANOVA, entered the five covariates to help control for the possibility that they were moderating the effects of principals' training.

## Results

In Table 1 we present the zero-order correlations among the five indices of school effectiveness and the five control variables. As we expected, the five indices were moderately correlated--the lowest correlation, .26, was between teachers' perception of the helpfulness of their principal and the orderliness of their school. The highest correlation, between Leader and Help, was .73. These moderate to strong positive correlations support our view that the five indices have tapped conceptually distinct aspects of effective schools.

Examining the potential covariates, it is clear that the higher the level of the school, the less likely is it to be perceived as effective. The correlation between the binary variable for elementary schools (Elem) is uniformly positive and significant across all indices of effectiveness, while the analogous correlation for middle schools (Middle) is uniformly negative and significant, though of a trivial magnitude. Finally, the correlations between high school (High) and all of the indices is both negative and of a larger magnitude. Interestingly, the correlations between the amount of time principals have held office in a school (Tenure), the total amount of their administrative experience (Admexp), and the total amount of their classroom experience as a teacher (Tchexp), have only trivial relationships with any of the indices of effectiveness, though some of these are of statistical significance.

(TABLE 1 ABOUT HERE)

We turn next to the results of a simple bivariate analysis. In Table 2 we show the

means for each index variable within each cell of the Degree by Major cross classification. There are several points to be made about this Table. First and most obviously, one cell is empty. We expected this, of course, since it is not possible to major in educational administration at the BA level. This empty cell is troublesome statistically and had to be taken into account in our subsequent analyses.

Next, notice the marginal distributions. Since the SASS is a nationally representative sample of schools, it is also a nationally representative sample of principals. It is clear that almost all principals in U.S. schools have had some graduate training; less than 2% have only a BA. The modal principal has a MA, and a substantial number (almost one-half) have training beyond a masters degree. Almost 10% have a doctorate. (Remember that these are building-level administrators. It is certain that if central office professionals were included in the survey, the percentage of doctorates in the sample would be substantially higher.) We do not have the requisite statistics at hand, but it seems likely that, as a group, school executives have substantially more occupationally specific graduate training that their counterparts in business and industry (and probably more than those in any other branch of administrative work).

It is also worth noting that the large majority of these persons have done their graduate work in Educational Administration rather than in another aspect of Education or outside the field of Education entirely. For example, 55.2% of those with MAs have taken their degrees in Educational Administration, as have almost three-fourths of those with Specialist Certificates. Thus, not only is the cadre of U. S. school executives extensively trained, it is trained in the field specifically intended to influence practice.

Finally, the cell means for each of the indices of school effectiveness do not seem to vary much, either across levels of training or types of majors. Considering those who majored in Education, for example, levels of student discipline (Order) are 20.90, 19.70, 19.75 and 19.12 for BA, MA, Specialist and Doctorate, respectively. Schools run by those with only a BA are perceived as somewhat more orderly than those run by the holders of doctorates. Similarly, comparing across Major, persons with a MA in a field outside of Education are perceived to be about as helpful to teachers as those with majors in Education or Educational Administration (3.90, 3.95 and 4.02, respectively.) From Table 2 we cannot tell whether any of these differences are statistically significant. Regardless of whether any are, one does not need to compute effect sizes to suspect that graduate training in Educational Administration may have little practical significance for school effectiveness.

(TABLE 2 ABOUT HERE)

We turn now to our main analyses. We began by first running a MANOVA using all of the data and none of the covariates. This analysis ignores the problem of the empty cell, but it provided us with a first approximation of the effects of graduate training in educational administration on school effectiveness. This analysis is presented in Table 3. We can see that there is no Degree by Major interaction, and that neither Degree or Major has a significant main effect on school effectiveness. That is, this analysis suggests that neither graduate training in general, nor graduate training in Educational Administration in particular, has a positive impact of school effectiveness.

(TABLE 3 ABOUT HERE)

In Table 4 we have deliberately restricted the analysis by eliminating the BA level

from the Degree factor, thus removing the empty cell. This necessarily changes the questions we posed. Here we asked whether training beyond a MA, or training in Educational Administration (at the MA level or higher), has any impact on school effectiveness. Again the answer seems to be negative.

(TABLE 4 ABOUT HERE)

Finally, we asked whether a significant relationship might have been masked by the presence of other variables that moderate the effects of Degree and Major on our indices of school effectiveness. Thus, we repeated the analysis reported in Table 4, and entered the five covariates as well. Because we chose listwise deletion of missing variables, the number of cases in this analysis dropped sharply, from 6341 to 5109, adding another problematic feature to our analyses. Nevertheless, there was no significant change in our results. (See Table 5.) All of these analyses, then, suggest that graduate training in educational administration has little impact on the effectiveness of U.S. schools.

(TABLE 5 ABOUT HERE)

## CONCLUSION

Clearly this study does not conclusively demonstrate that graduate training in educational administration is of little use. The difficulties of doing research on this issue are numerous, and this study is prey to a number of them. For example, our measures of effectiveness were drawn from the perceptions of a single group, teachers. While teachers are in a position to make judgements about the effectiveness of their school, they are not necessarily the best judges of it. Indeed, some critically important aspects of school performance may be largely invisible to a teaching staff (e.g., the subsequent educational and

occupational success of a school's graduates).

Caution must also be exercised because we had no measures of graduate program quality. That is, our results address the efficacy of graduate training in the aggregate, as if all students went through the same program at the same time. Obviously that is false, and we make no claim to challenge the adequacy of specific programs. There may well be some programs that are highly effective but hidden in the SASS data.

A serious limitation of these data for our purposes was also noted by Fowler (1991). The design of the SASS study was not intended to provide good estimates of a school's characteristics derived from its teachers' responses. Recall that relatively few teachers were selected from within each school--four, six and eight respondents from elementary, middle and secondary schools, respectively. Our estimates of a school's effectiveness, therefore, are more unstable than we would like them to be.

We did not control for the degree to which principals received additional administrative training through inservice programs. If supplemental training has an influence on principal competence, and if its availability is associated with the quality of university programs, its omission may confound the results of our study. Further, due to our direct reliance on effective schools research, our study falls prey to some of the shortcomings of that line of inquiry. For example, the causal standing of many of the effective school characteristics as determinants of school outcomes is highly problematic (Purkey and Smith, 1983; Rowan et al., 1983).

Perhaps most importantly, a school is effective (or less effective) to the extent that its students attain the goals established by the school and the community it serves (Kelley, 1989).

Given this definition, and forgetting all of the methodological caveats we have noted, obviously we cannot claim that graduate training has no impact on school effectiveness, if effectiveness is taken to mean student outcomes. Rather, all that we can claim is that, taken collectively, graduate programs in educational administration seem to have little or no influence on the attributes that characterize effective schools.

But this is not a trivial claim. The research that undergirds the notion of effective schooling is now voluminous. In that literature, and (perhaps more importantly) in the minds of policy makers, there is certainly a broad consensus that the "effective schools correlates" are something more than mere correlates or statistical artifacts. Indeed, many states have implemented programs (at considerable expense) to create exactly these "correlates," in the belief that they will cause schools to improve. To the extent that these attributes are, in fact, causes of valued school outcomes, evidence that graduate training in school administration has no effect on these attributes is evidence that the training is irrelevant to the goals we seek.

Taken with the results of earlier studies, this research casts further doubt on the presumption that graduate training for school administrators has improved U.S. schools. It does seem to us that the burden of proof now rests with those who would claim that existing preservice programs have the effects they are presumed to have, or that modest tinkering is all that is required to insure that those effects are forthcoming. At the least this study, along with the research cited earlier, would urge caution before we listen to those who would require that school principals hold a doctorate. As we have noted, graduate training in educational administration is expensive--to individuals, to universities and to society. Before

we heed the call to require yet more of it, we should have some evidence that it is worth the candle.

We suggest, instead, that the current interest in substantially changing graduate training in educational administration is well placed. Unfortunately, the nature of the changes needed is far from clear. Certainly it is not evident that we should require more training, or even different training. Perhaps we should require less. Or none at all. Only careful studies of the effects of individual programs can provide us with the sort of information we require. But such studies are notoriously difficult and expensive to mount and are fraught with methodological pitfalls. Worse, in these economically challenged times, they are "high risk" endeavors. It is asking a lot of departments of educational administration to conduct careful studies of their effects, when there is a real possibility that they have none. It remains to be seen, then, whether the widespread and serious efforts to overhaul graduate training in educational administration will be accompanied by equally widespread and serious efforts to ascertain their impact. Given our field's history of assuming the efficacy of its own programs, we are not terribly sanguine about that possibility.

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## APPENDIX

### SASS Items Used for Each Dependent Variable
### (In Order of Item Factor Loading after Rotation)

Leadership: "Do you agree or disagree with each of the following statements?" (Strongly agree-Strongly Disagree)

1. The principal lets staff members know what is expected of them.
2. The principal knows what kind of school he/she wants and has communicated it to the staff.
3. The school administration's behavior toward the staff is supportive and encouraging.
4. My principal enforces school rules for student conduct and backs me up when I need it.
5. In this school staff members are recognized for a job well done.
6. Teachers in this school are evaluated fairly.
7. Goals and priorities for this school are clear.
8. The principal talks to me frequently about my instructional practices.
9. The principal does a poor job getting resources for this school.
10. Teachers participate in making most of the important educational decisions in this school.

Climate: (Same scaling as Leadership)

1. Most of my colleagues share my beliefs and values about what the central mission of the school should be.
2. There is a great deal of cooperative effort among staff members.
3. Rules for student behavior are consistently enforced by teachers in this school, even for students who are not in their classes.

Order: "Indicate the degree to which each of the following matters is a problem in this school. Do you think it is a serious problem, a moderate problem, a minor problem or not a problem at all?"

1. Physical abuse of teachers.
2. Verbal abuse of teachers.
3. Physical conflicts among students.
4. Student possession of weapons.
5. Robbery or theft.
6. Vandalism of school property.

Policy: "At this school, how much actual influence do you think teachers have over school policy in each of the areas below?" (Six point scale, "No influence" to "Great deal of influence.")

1. Determining discipline policy.
2. Determining the content of inservice programs.
3. Setting policy on grouping students in classes by ability.
4. Establishing curriculum.

Help: "To what extent has [Principal or school head] at this school helped you improve your teaching or solve an instructional or class management problem?" (Six-point scale, "No help" to "Extremely helpful.")

**TABLE 1**
**Correlation Coefficients, Means, Standard Deviations**
**(N=6341)**

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. LEADER | 1.000 | | | | | | | | | | | |
| 2. CLIMATE | .5864 | 1.0000 | | | | | | | | | | |
| 3. FELONY | .3311 | .4698 | 1.0000 | | | | | | | | | |
| 4. POLICY | .4883 | .4318 | .3934 | 1.0000 | | | | | | | | |
| 5. HELP | .7324 | .4116 | .2597 | .4138 | 1.0000 | | | | | | | |
| 6. ELEM | .2102 | .3932 | .4014 | .2339 | .1472 | 1.0000 | | | | | | |
| 7. MIDDLE | -.0715 | -.1079 | -.1877 | -.0771 | -.0576 | -.4995 | 1.0000 | | | | | |
| 8. HIGH | -.1696 | -.3394 | -.2805 | -.1909 | -.1123 | -.6705 | -.3078 | 1.0000 | | | | |
| 9. SIZE | -.1042 | -.2668 | -.3804 | -.2216 | -.1532 | -.3339 | .0575 | .3175 | 1.0000 | | | |
| 10. TENURE | -.0474 | .0152 | .0966 | -.0028 | -.0121 | .0236 | .0109 | -.0352 | -.0694 | 1.0000 | | |
| 11. ADMEXP | -.0701 | -.0497 | -.0586 | -.0244 | .0939 | .0149 | -.0129 | -.0054 | .1341 | -.2456 | 1.0000 | |
| 12. TCHEXP | -.0091 | -.0212 | -.0162 | -.0426 | .0182 | -.0039 | -.0310 | .0308 | -.0710 | .0807 | -.0477 | 1.0000 |
| MEAN | 24.69 | 9.10 | 19.77 | 14.19 | 3.99 | .53 | .19 | .28 | 3.44 | 6.22 | 6.38 | 13.2 |
| S. D. | 3.70 | 1.33 | 2.51 | 3.23 | 1.06 | .50 | .39 | .45 | 1.34 | 5.92 | 6.47 | 8.18 |

**TABLE 2**

**Cells Mean, Standard Deviations and Ns**

Major

| Degree | Nat Ed. | | Education | | Ed. Admin. | | Totals (%) |
|---|---|---|---|---|---|---|---|
| BA | x | s | x | s | x | s | |
| Leader | 25.68 | 3.92 | 24.71 | 4.14 | | | |
| Climate | 9.64 | 1.49 | 9.48 | 1.54 | | | |
| Order | 21.15 | 2.04 | 20.90 | 2.41 | | | |
| Policy | 16.07 | 3.48 | 15.20 | 3.25 | | | |
| Help | 4.23 | 1.19 | 3.89 | 1.18 | | | |
| N(%) | 73(66.3) | | 37(33.6) | | | | 110(1.7) |
| MA | | | | | | | |
| Leader | 24.14 | 3.68 | 24.63 | 3.77 | 24.67 | 3.68 | |
| Climate | 8.78 | 1.34 | 9.08 | 1.41 | 9.17 | 1.30 | |
| Order | 19.44 | 2.46 | 19.70 | 2.51 | 19.94 | 2.43 | |
| Policy | 13.72 | 3.30 | 14.09 | 3.24 | 14.30 | 3.23 | |
| Help | 3.90 | 1.05 | 3.95 | 1.10 | 4.02 | 1.06 | |
| N(%) | 199(15.9) | | 1320(38.9) | | 1875(55.2) | | 3394(53.5) |
| Specialist | | | | | | | |
| Leader | 24.77 | 2.84 | 24.81 | 3.72 | 24.73 | 3.63 | |
| Climate | 8.84 | 1.17 | 9.08 | 1.31 | 9.08 | 1.29 | |
| Order | 19.63 | 2.02 | 19.75 | 2.63 | 19.76 | 2.47 | |
| Policy | 14.22 | 2.85 | 14.11 | 3.32 | 14.14 | 3.12 | |
| Help | 3.97 | .94 | 4.01 | 1.06 | 4.00 | 1.04 | |
| N(%) | 44(2.0) | | 520(23.2) | | 1674(74.8) | | 2238(35.3) |
| Ph.D. | | | | | | | |
| Leader | 25.35 | 4.48 | 24.63 | 3.95 | 24.76 | 3.59 | |
| Climate | 9.00 | 1.44 | 9.03 | 1.35 | 9.02 | 1.28 | |
| Order | 19.92 | 3.05 | 19.12 | 3.10 | 19.41 | 2.55 | |
| Policy | 14.29 | 3.87 | 14.21 | 3.70 | 14.06 | 3.18 | |
| Help | 4.09 | 1.21 | 3.98 | 1.06 | 3.96 | 1.06 | |
| N(%) | 42(7.0) | | 166(27.8) | | 391(65.3) | | 599(9.4) |
| TOTALS | 358(5.6) | | 2043(32.2) | | 3940(62.1) | | 6341(100) |

TABLE 3

Multiple Analysis of Variance

The Effects of Principals' Highest Degree and Major on School Effectiveness

(Holders of Only a Bachelor's Degree Included)

| Effect | Wilks | F | df | Sig |
|---|---|---|---|---|
| Degree | .997 | 1.259 | 15/17563.70 | .219 |
| Major | .999 | .788 | 10/12650 | .640 |
| Degree X Major | .997 | .814 | 25/23501.55 | .728 |

TABLE 4

Multiple Analysis of Variance

The Effects of Principals' Highest Degree and Major on School Effectiveness

(Holders of Only a Bachelor's Degree Excluded)

| Effect | Wilks | F | df | Sig |
|---|---|---|---|---|
| Degree | .998 | 1.056 | 10/12436 | .393 |
| Major | .998 | 1.207 | 10/12436 | .280 |
| Degree X Major | .997 | .816 | 20/20623.72 | .696 |

TABLE 5

Multiple Analysis of Covariance

Effects of Principals' Highest Degree and Major on School Effectiveness

(Holders of Only a Bachelor's Degree Excluded, All Covariates Entered)

| Effect | Wilks | F | df | Sig |
|---|---|---|---|---|
| Degree | .998 | .971 | 10/10180 | .466 |
| Major | .997 | 1.069 | 10/10180 | .383 |
| Degree X Major | .997 | .724 | 20/16882.57 | .804 |